

## STATEMENT OF BASIS

Simcala, Inc.  
Mount Meigs, Alabama  
Montgomery County  
209-0026

This proposed Title V Major Source Operating Permit (MSOP) renewal is issued under the provisions of ADEM Admin. Code R. 335-3-16. The above named applicant has requested authorization to perform the work or operate the facility shown on the application and drawings, plans and other documents attached hereto or on file with the Air Division of the Alabama Department of Environmental Management, in accordance with the terms and conditions of this permit.

Simcala Inc. owns and operates a silicon metal production facility located in Mt. Meigs, AL. Simcala produces silicon metal by smelting in three 20 MW electric arc furnaces (EAF). Silicon dioxide (quartz rock), coal, charcoal, limestone, and wood chips are fed to the top of each furnace from raw material storage and feed systems. The primary product (silicon metal) gravitates to the hearth of each furnace where it is continuously tapped. The silicon metal is then cooled, crushed and sized on site before shipping.

The only significant sources of air pollutants at this facility are:

20 MW Electric Arc Furnace No. 1 & Associated Tapping Operation w/Multiclone & Baghouse (EP001)  
20 MW Electric Arc Furnace No. 2 & Associated Tapping Operation w/Multiclone & Baghouse (EP002)  
20 MW Electric Arc Furnace No. 3 & Associated Tapping Operation w/Multiclone & Baghouse (EP003)  
Chemical Crusher w/ Baghouse (EP004)  
Roll Crusher w/ Baghouse (EP005)  
Aluminum Crusher w/ Baghouse (EP006)  
Product Handling Fugitives (F008)

The facility is manned 8,760 hours per year. This facility is major for particulate matter, volatile organic compounds, nitrogen oxides, sulfur dioxide, carbon monoxide, and hazardous air pollutants.

### **20 MW EAF No. 1 & Associated Tapping Operation w/ Multiclone & Baghouse (EP001)**

Silicon dioxide (quartz rock), coal, charcoal, limestone, and wood chips are fed to the top of the furnace from raw material storage and feed system. Silicon metal is tapped from the hearth. Emissions are captured by hood systems and vented through a baghouse.

### **Emissions Standards:**

#### **Particulate Matter Emissions:**

Particulate matter emissions from this unit shall not exceed the greater of 0.99 lb per Megawatt-hr or the allowable as set by rule 335-3-4-.04.

ADEM Admin. Code R. 335-3-10-.01(2); §60.262(a) and ADEM Admin. Code R. 335-3-4-.04

The allowable for this unit would be the greater of the above standards.

ADEM Admin. Code R. 335-3-10-.01(2) states "The emission standards in this Chapter shall supercede the emission standards in Chapters 335-3-3, -4, -5, -6, -7, and -8 if both of the following criteria are met: 1) the

source category is subject to the regulations in this Chapter for the specific pollutants to which an emission standard under this Chapter applies, and 2) the emission standard under Chapters 335-3-3, -4, -5, -6, -7, and -8 is more stringent than the emission standard in this Chapter for the specific pollutants regulated.

The SIP process weight is more stringent than the NSPS allowable and the source category, Ferro Alloy Production, is subject to an NSPS, Subpart Z. Therefore ADEM Admin. Code R. 335-3-10-.01(2) is applicable in this case. The furnace is subject to the NSPS emissions limit, but not the other requirements of the NSPS.

#### **Opacity Standards:**

Unless otherwise specified in the Unit Specific provisos of this permit, any source of particulate matter emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate matter emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

ADEM Admin. Code R. 335-3-4-.01(1)

#### **Expected Emissions:**

##### **Particulate Matter Emissions:**

The expected particulate matter emissions from this unit are 18.99 lbs/hr (65.71 TPY). This is based on the allowable emissions rate and the actual hours of operation during 2009 (6,920 hours).

##### **Sulfur Dioxide Emissions:**

The expected sulfur dioxide emissions from this unit are 52.50 lbs/hr (181.66 TPY). This is based on 2009 stack test data and the actual hours of operation during 2009 (6,920 hours).

##### **Nitrogen oxide Emissions:**

The expected nitrogen oxide emissions from this unit are 42.82 lbs/hr (148.17 TPY). This is based on 2009 stack test data and the actual hours of operation during 2009 (6,920 hours).

##### **Carbon monoxide Emissions:**

The expected carbon monoxide emissions from this unit are 95.83 lbs/hr (331.59 TPY). This is based on 2009 stack test data and the actual hours of operation during 2009 (6,920 hours).

##### **Volatile Organic Compounds:**

The expected volatile organic compounds emissions from this unit are 8.00 lbs/hr (27.68 TPY). This is based on 2009 stack test data and the actual hours of operation during 2009 (6,920 hours).

##### **HCL:**

The expected HCL emissions from this unit are 4.74 lbs/hr (16.40 TPY). This is based on 2009

stack test data and the actual hours of operation during 2009 (6,920 hours).

Emissions Monitoring:

This unit is subject to the Compliance Assurance Monitoring (CAM) for particulate matter because the unit is subject to an emission limit for PM, uses a control device to achieve compliance with the applicable emissions limits, and has potential uncontrolled emissions greater than the major source threshold. In addition to CAM, the following is also being performed to ensure that the control equipment is operating correctly.

**Particulate Matter (PM) and Opacity:**

The facility shall perform a daily inspection of the furnace building to verify proper operation of the furnace baghouse.

The following activities shall be performed:

- (a) Once per day check the furnace and tap hoods for fugitive emissions.
- (b) Record any repairs or observed problems

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall perform a weekly inspection of the furnace baghouse to verify proper operation.

The following activities shall be performed:

- (a) The baghouse shall be inspected weekly for damaged bags, air leaks, water infiltration, caking or blinding of bags, proper cleaning function and cycling. Maintenance shall be performed as needed.
- (b) Once per week a visual check of all hoods and ductwork.
- (c) Record any repairs or observed problems.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall perform the following annual inspections of the main baghouse to verify proper operation.

The following activities shall be performed:

- (a) Internal inspection of structure, access doors and bags.
- (b) Internal inspection of all hoppers.
- (c) Record any repairs or observed problems.

ADEM Admin. Code R. 335-3-16-.05(c)

	Indicator 1	Indicator 2	Indicator 3
I. Indicator	Visible Emissions	Differential Pressure	Baghouse Fan Amperage
Measurement Approach	Trained and qualified personnel will do a visible inspection.	Measured using a pressure gauge.	Measured using an ammeter.
II. Indicator Range	While the unit is operating, an excursion is defined as the presence of visible emissions greater than 10% opacity. Excursions trigger an inspection, corrective action, and a reporting requirement. If an excursion is noted and not corrected within a period of (1) one hour, then a method 9 must be performed within (4) four hours of the observation.	While the unit is operating, an excursion is defined as a pressure differential below 5.0 inches of H <sub>2</sub> O or greater than 15.0 inches of H <sub>2</sub> O. Excursions trigger an inspection, corrective action, and a reporting requirement.	While the unit is operating, an excursion is defined as a fan amperage that is below 100 amps. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria			
1. Data Representativeness	Measurement is being made at the emission point (baghouse exhaust).	The pressure differential is being measured between the inlet and outlet of the baghouse.	The fan amperage is being measured at the fan.
2. Verification of Operation Status	Not Applicable	Not Applicable	Not Applicable
3. QA/QC Practices and Criteria	Qualified personnel will perform the visible inspection.	The pressure gauge will be calibrated quarterly. Pressure taps checked daily.	The fans will be checked daily during the inspections. The ammeter will be zeroed when the unit is not operating.
4. Monitoring Frequency	The visible inspection will be performed daily.	The pressure drop will be monitored daily.	The fan amperage will be monitored daily.
5. Data Collection Procedures	The visible inspection will be recorded with the time, date, and name of the observer.	The pressure differential will be recorded with the time, date, and name of the observer.	The fan amperage will be recorded with the time, date, and name of the observer.
6. Averaging Period	Instantaneous	Instantaneous	Instantaneous

Recordkeeping and Reporting:

The facility shall maintain a record of all inspections, to include visible observations and Method 9's, performed to satisfy the requirements of periodic monitoring. This shall include all problems observed and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall maintain a record of all weekly and annual baghouse inspections to satisfy the requirements of periodic monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall maintain a record of all differential pressure readings performed to satisfy the requirements of Compliance Assurance Monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall maintain a record of all fan amperage readings for the baghouse performed to satisfy the requirements of Compliance Assurance Monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code R. 335-3-16-.05(c)

**20 MW EAF No. 2 & Associated Tapping Operation w/ Multiclone & Baghouse (EP002)**

Silicon dioxide (quartz rock), coal, charcoal, limestone, and wood chips are fed to the top of the furnace from raw material storage and feed system. Silicon metal is tapped from the hearth. Emissions are captured by hood systems and vented through a baghouse.

Emissions Standards:

**Particulate Matter Emissions:**

Particulate matter emissions from this unit shall not exceed the greater of 0.99 lb per Megawatt-hr or the allowable as set by rule 335-3-4-.04.

ADEM Admin. Code R. 335-3-10-.01(2); §60.262(a) and ADEM Admin. Code R. 335-3-4-.04

The allowable for this unit would be the greater of the above standards.

ADEM Admin. Code R. 335-3-10-.01(2) states "The emission standards in this Chapter shall supercede the emission standards in Chapters 335-3-3, -4, -5, -6, -7, and -8 if both of the following criteria are met: 1) the source category is subject to the regulations in this Chapter for the specific pollutants to which an emission standard under this Chapter applies, and 2) the emission standard under Chapters 335-3-3, -4, -5, -6, -7, and -8 is more stringent than the emission standard in this Chapter for the specific pollutants regulated.

The SIP process weight is more stringent than the NSPS allowable and the source category, Ferro Alloy Production, is subject to an NSPS, Subpart Z. Therefore ADEM Admin. Code R. 335-3-10-.01(2) is applicable in this case. The furnace is subject to the NSPS emissions limit, but not the other requirements of the NSPS.

**Opacity Standards:**

Unless otherwise specified in the Unit Specific provisos of this permit, any source of particulate matter emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate matter emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

ADEM Admin. Code R. 335-3-4-.01(1)

Expected Emissions:

**Particulate Matter Emissions:**

The expected particulate matter emissions from this unit are 19.80 lbs/hr (37.12 TPY). This is based on the allowable emissions and the actual hours of operation during 2009 (3,747 hours).

**Sulfur Dioxide Emissions:**

The expected sulfur dioxide emissions from this unit are 52.50 lbs/hr (98.37 TPY). This is based on 2009 stack test data and the actual hours of operation during 2009 (3,747 hours).

**Nitrogen oxide Emissions:**

The expected nitrogen oxide emissions from this unit are 42.82 lbs/hr (80.23 TPY). This is based on 2009 stack test data and the actual hours of operation during (3,747 hours).

**Carbon monoxide Emissions:**

The expected carbon monoxide emissions from this unit are 95.83 lbs/hr (179.55 TPY). This is based on 2009 stack test data and the actual hours of operation during (3,747 hours).

**Volatile Organic Compounds:**

The expected volatile organic compounds emissions from this unit are 8.00 lbs/hr (14.99 TPY). This is based on 2009 stack test data and the actual hours of operation during (3,747 hours).

**HCL:**

The expected HCL emissions from this unit are 4.74 lbs/hr (8.88 TPY). This is based on 2009 stack test data and the actual hours of operation during (3,747 hours).

Emissions Monitoring:

This unit is subject to the Compliance Assurance Monitoring (CAM) for particulate matter because the

unit is subject to an emission limit for PM, uses a control device to achieve compliance with the applicable emissions limits, and has potential uncontrolled emissions greater than the major source threshold. In addition to CAM, the following is also being performed to ensure that the control equipment is operating correctly.

**Particulate Matter (PM) and Opacity:**

The facility shall perform a daily inspection of the furnace building to verify proper operation of the furnace baghouse.

The following activities shall be performed:

- (a) Once per day check the furnace and tap hoods for fugitive emissions.
- (b) Record any repairs or observed problems

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall perform a weekly inspection of the furnace baghouse to verify proper operation.

The following activities shall be performed:

- (a) The baghouse shall be inspected weekly for damaged bags, air leaks, water infiltration, caking or blinding of bags, proper cleaning function and cycling. Maintenance shall be performed as needed.
- (b) Once per week a visual check of all hoods and ductwork.
- (c) Record any repairs or observed problems.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall perform the following annual inspections of the main baghouse to verify proper operation.

The following activities shall be performed:

- (a) Internal inspection of structure, access doors and bags.
- (b) Internal inspection of all hoppers.
- (c) Record any repairs or observed problems.

ADEM Admin. Code R. 335-3-16-.05(c)

**CAM Plan for 20 MW EAF No. 2 and associated tapping operation w/ multiclone and baghouse No. 2**

	Indicator 1	Indicator 2	Indicator 3
I. Indicator	Visible Emissions	Differential Pressure	Baghouse Fan Amperage
Measurement Approach	Trained and qualified personnel will do a visible inspection.	Measured using a pressure gauge.	Measured using an ammeter.
II. Indicator Range	While the unit is operating, an excursion is defined as the presence of visible emissions greater than 10% opacity. Excursions trigger an inspection, corrective action, and a reporting requirement. If an excursion is noted and not corrected within a period of (1) one hour, then a method 9 must be performed within (4) four hours of the observation.	While the unit is operating, an excursion is defined as a pressure differential below 5.0 inches of H <sub>2</sub> O or greater than 15.0 inches of H <sub>2</sub> O. Excursions trigger an inspection, corrective action, and a reporting requirement.	While the unit is operating, an excursion is defined as a fan amperage that is below 100 amps. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria			
7. Data Representativeness	Measurement is being made at the emission point (baghouse exhaust).	The pressure differential is being measured between the inlet and outlet of the baghouse.	The fan amperage is being measured at the fan.
8. Verification of Operation Status	Not Applicable	Not Applicable	Not Applicable
9. QA/QC Practices and Criteria	Qualified personnel will perform the visible inspection.	The pressure gauge will be calibrated quarterly. Pressure taps checked daily.	The fans will be checked daily during the inspections. The ammeter will be zeroed when the unit is not operating.
10. Monitoring Frequency	The visible inspection will be performed daily.	The pressure drop will be monitored daily.	The fan amperage will be monitored daily.
11. Data Collection Procedures	The visible inspection will be recorded with the time, date, and name of the observer.	The pressure differential will be recorded with the time, date, and name of the observer.	The fan amperage will be recorded with the time, date, and name of the observer.
12. Averaging Period	Instantaneous	Instantaneous	Instantaneous



Recordkeeping and Reporting:

The facility shall maintain a record of all inspections, to include visible observations and Method 9's, performed to satisfy the requirements of periodic monitoring. This shall include all problems observed and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall maintain a record of all weekly and annual baghouse inspections to satisfy the requirements of periodic monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall maintain a record of all differential pressure readings performed to satisfy the requirements of Compliance Assurance Monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall maintain a record of all fan amperage readings for the baghouse performed to satisfy the requirements of Compliance Assurance Monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code R. 335-3-16-.05(c)

**20 MW EAF No. 3 & Associated Tapping Operation w/ Multiclone & Baghouse (EP003)**

Silicon dioxide (quartz rock), coal, charcoal, limestone, and wood chips are fed to the top of the furnace from raw material storage and feed system. Silicon metal is tapped from the hearth. Emissions are captured by hood systems and vented through a baghouse.

Emissions Standards:

**Particulate Matter Emissions:**

Particulate matter emissions from this unit shall not exceed the greater of 0.99 lb per Megawatt-hr or the allowable as set by rule 335-3-4-.04.

ADEM Admin. Code R. 335-3-10-.01(2); §60.262(a) and ADEM Admin. Code R. 335-3-4-.04

The allowable for this unit would be the greater of the above standards.

ADEM Admin. Code R. 335-3-10-.01(2) states "The emission standards in this Chapter shall supercede the emission standards in Chapters 335-3-3, -4, -5, -6, -7, and -8 if both of the following criteria are met: 1) the source category is subject to the regulations in this Chapter for the specific pollutants to which an emission

standard under this Chapter applies, and 2) the emission standard under Chapters 335-3-3, -4, -5, -6, -7, and -8 is more stringent than the emission standard in this Chapter for the specific pollutants regulated.

The SIP process weight is more stringent than the NSPS allowable and the source category, Ferro Alloy Production, is subject to an NSPS, Subpart Z. Therefore ADEM Admin. Code R. 335-3-10-.01(2) is applicable in this case. The furnace is subject to the NSPS emissions limit, but not the other requirements of the NSPS.

#### **Opacity Standards:**

Unless otherwise specified in the Unit Specific provisos of this permit, any source of particulate matter emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate matter emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

ADEM Admin. Code R. 335-3-4-.01(1)

#### **Expected Emissions:**

##### **Particulate Matter Emissions:**

The expected particulate matter emissions from this unit are 19.30 lbs/hr (59.77 TPY). This is based on the allowable emissions and the actual hours of operation during 2009 (6,193 hours).

##### **Sulfur Dioxide Emissions:**

The expected sulfur dioxide emissions from this unit are 52.50 lbs/hr (162.58 TPY). This is based on 2009 stack test data and the actual hours of operation during 2009 (6,193 hours).

##### **Nitrogen oxide Emissions:**

The expected nitrogen oxide emissions from this unit are 42.82 lbs/hr (132.60 TPY). This is based on 2009 stack test data and the actual hours of operation during 2009 (6,193 hours).

##### **Carbon monoxide Emissions:**

The expected carbon monoxide emissions from this unit are 95.83 lbs/hr (296.75 TPY). This is based on 2009 stack test data and the actual hours of operation during 2009 (6,193 hours).

##### **Volatile Organic Compounds:**

The expected volatile organic compounds emissions from this unit are 8.00 lbs/hr (24.77 TPY). This is based on 2009 stack test data and the actual hours of operation during 2009 (6,193 hours).

##### **HCL:**

The expected HCL emissions from this unit are 4.74 lbs/hr (14.68 TPY). This is based on 2009 stack test data and the actual hours of operation during 2009 (6,193 hours).

Emissions Monitoring:

This unit is subject to the Compliance Assurance Monitoring (CAM) for particulate matter because the unit is subject to an emission limit for PM, uses a control device to achieve compliance with the applicable emissions limits, and has potential uncontrolled emissions greater than the major source threshold. In addition to CAM, the following is also being performed to ensure that the control equipment is operating correctly.

**Particulate Matter (PM) and Opacity:**

The facility shall perform a daily inspection of the furnace building to verify proper operation of the furnace baghouse.

The following activities shall be performed:

- (a) Once per day check the furnace and tap hoods for fugitive emissions.
- (b) Record any repairs or observed problems

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall perform a weekly inspection of the furnace baghouse to verify proper operation.

The following activities shall be performed:

- (a) The baghouse shall be inspected weekly for damaged bags, air leaks, water infiltration, caking or blinding of bags, proper cleaning function and cycling. Maintenance shall be performed as needed.
- (b) Once per week a visual check of all hoods and ductwork.
- (c) Record any repairs or observed problems.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall perform the following annual inspections of the main baghouse to verify proper operation.

The following activities shall be performed:

- (a) Internal inspection of structure, access doors and bags.
- (b) Internal inspection of all hoppers.
- (c) Record any repairs or observed problems.

ADEM Admin. Code R. 335-3-16-.05(c)

**CAM Plan for 20 MW EAF No. 3 and associated tapping operation with cyclone and baghouse No. 3**

	Indicator 1	Indicator 2	Indicator 3
I. Indicator	Visible Emissions	Differential Pressure	Baghouse Fan Amperage
Measurement Approach	Trained and qualified personnel will do a visible inspection.	Measured using a pressure gauge.	Measured using an ammeter.
II. Indicator Range	While the unit is operating, an excursion is defined as the presence of visible emissions greater than 10% opacity. Excursions trigger an inspection, corrective action, and a reporting requirement. If an excursion is noted and not corrected within a period of (1) one hour, then a method 9 must be performed within (4) four hours of the observation.	While the unit is operating, an excursion is defined as a pressure differential below 5.0 inches of H <sub>2</sub> O or greater than 15.0 inches of H <sub>2</sub> O. Excursions trigger an inspection, corrective action, and a reporting requirement.	While the unit is operating, an excursion is defined as a fan amperage that is below 100 amps. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria			
13. Data Representativeness	Measurement is being made at the emission point (baghouse exhaust).	The pressure differential is being measured between the inlet and outlet of the baghouse.	The fan amperage is being measured at the fan.
14. Verification of Operation Status	Not Applicable	Not Applicable	Not Applicable
15. QA/QC Practices and Criteria	Qualified personnel will perform the visible inspection.	The pressure gauge will be calibrated quarterly. Pressure taps checked daily.	The fans will be checked daily during the inspections. The ammeter will be zeroed when the unit is not operating.
16. Monitoring Frequency	The visible inspection will be performed daily.	The pressure drop will be monitored daily.	The fan amperage will be monitored daily.
17. Data Collection Procedures	The visible inspection will be recorded with the time, date, and name of the observer.	The pressure differential will be recorded with the time, date, and name of the observer.	The fan amperage will be recorded with the time, date, and name of the observer.
18. Averaging Period	Instantaneous	Instantaneous	Instantaneous

#### Recordkeeping and Reporting:

The facility shall maintain a record of all inspections, to include visible observations and Method 9's, performed to satisfy the requirements of periodic monitoring. This shall include all problems observed and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall maintain a record of all weekly and annual baghouse inspections to satisfy the requirements of periodic monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall maintain a record of all differential pressure readings performed to satisfy the requirements of Compliance Assurance Monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall maintain a record of all fan amperage readings for the baghouse performed to satisfy the requirements of Compliance Assurance Monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code R. 335-3-16-.05(c)

#### **Product Crushing, Screening, and Processing w/ Baghouses 4, 5, and 6**

##### **Chemical Crusher w/ Baghouse (EP004)**

The Chemical Crusher is a jaw crusher with a single deck shaker screen. This unit is used to separate the silicon metal into two product sizes. The particulate matter emissions from this unit are controlled by a baghouse (EP004).

#### Emissions Standards:

##### **Particulate Matter Emissions:**

Particulate matter emissions from this unit shall not exceed the allowable as set by rule 335-3-4-.04.

$E = 3.59 (P)^{0.62}$  (P less than 30 tons per hour)

E = Emissions in pounds per hour

P = Process weight per hour in tons per hour

ADEM Admin. Code R. 335-3-4-.04

At maximum capacity the PM allowable for this unit would be 14.97 lbs/hr.

**Opacity Standards:**

Unless otherwise specified in the Unit Specific provisos of this permit, any source of particulate matter emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate matter emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

ADEM Admin. Code R. 335-3-4-.01(1)

**Expected Emissions:****Particulate Matter Emissions:**

Expected particulate matter emissions from this unit are 0.55 lbs/hr (2.41 TPY). This is based on AP-42 emission factors, baghouse design capture and control efficiencies, and the maximum hours of operation (8,760 hours).

**Emissions Monitoring:**

Based on the low level of expected emissions from the baghouse as compared to the regulatory allowable, the following requirements would represent periodic monitoring.

The facility shall perform a visual check, once per week, of the baghouse stack associated with this unit. This check shall be performed by a person familiar with Method 9. If visible emissions in excess of 10% opacity are noted, and are not corrected within a period of 1 hour, then a Method 9 must be performed within 4 hours of the observations. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall perform a weekly inspection of the baghouse associated with this unit to verify proper operation.

The following activities shall be performed:

- (a) Once per week check the capture hoods associated with this permit for fugitive emissions.
- (b) Once per month check hopper, fan and cleaning cycle for proper operation.
- (c) Once per month a visual check of all hoods and ductwork.
- (d) Record any repairs or observed problems.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall perform the following annual inspections of the baghouse to verify proper operation.

The following activities shall be performed:

- (a) Internal inspection of structure, access doors and bags.
- (b) Internal inspection of all hoppers.

ADEM Admin. Code R. 335-3-16-.05(c)

Recordkeeping and Reporting:

The facility shall maintain a record of all inspections, to include visible observations and Method 9's, performed to satisfy the requirements of periodic monitoring. This shall include all problems observed and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall report any Method 9's with an average opacity over 20%. Such reports shall be made within 48 hrs of such observations.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall maintain a record of all weekly and annual baghouse inspections to satisfy the requirements of periodic monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code R. 335-3-16-.05(c)

**Roll Crusher w/ Baghouse (EP005)**

The Roll Crusher is a jaw crusher with a single deck shaker screen. This unit is used to separate the silicon metal into two product sizes. The particulate matter emissions from this unit are controlled by a baghouse (EP005).

Emissions Standards:

**Particulate Matter Emissions:**

Particulate matter emissions from this unit shall not exceed the allowable as set by rule 335-3-4-.04.

$E = 3.59 (P)^{0.62}$  (P less than 30 tons per hour)

E = Emissions in pounds per hour

P = Process weight per hour in tons per hour

ADEM Admin. Code R. 335-3-4-.04

At maximum capacity the PM allowable for this unit would be 9.74 lbs/hr.

**Opacity Standards:**

Unless otherwise specified in the Unit Specific provisos of this permit, any source of particulate matter emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate matter emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

ADEM Admin. Code R. 335-3-4-.01(1)

Expected Emissions:

**Particulate Matter Emissions:**

Expected particulate matter emissions from this unit are 0.28 lbs/hr (1.22 TPY). This is based on AP-42 emission factors, baghouse design capture and control efficiencies, and the maximum hours of operation (8,760 hours).

Emissions Monitoring:

Based on the low level of expected emissions from the baghouse as compared to the regulatory allowable, the following requirements would represent periodic monitoring.

The facility shall perform a visual check, once per week, of the baghouse stack associated with this unit. This check shall be performed by a person familiar with Method 9. If visible emissions in excess of 10% opacity are noted, and are not corrected within a period of 1 hour, then a Method 9 must be performed within 4 hours of the observations. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall perform a weekly inspection of the baghouses associated with this unit to verify proper operation.

The following activities shall be performed:

- (a) Once per week check the capture hoods associated with this permit for fugitive emissions.
- (b) Once per month check hopper, fan and cleaning cycle for proper operation.
- (c) Once per month a visual check of all hoods and ductwork.
- (d) Record any repairs or observed problems.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall perform the following annual inspections of the main baghouse to verify proper operation.

The following activities shall be performed:

- (a) Internal inspection of structure, access doors and bags.
- (b) Internal inspection of all hoppers.

ADEM Admin. Code R. 335-3-16-.05(c)



Recordkeeping and Reporting:

The facility shall maintain a record of all inspections, to include visible observations and Method 9's, performed to satisfy the requirements of periodic monitoring. This shall include all problems observed and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall report any Method 9's with an average opacity over 20%. Such reports shall be made within 48 hrs of such observations.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall maintain a record of all weekly and annual baghouse inspections to satisfy the requirements of periodic monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code R. 335-3-16-.05(c)

**Aluminum Crusher w/ Baghouse (EP006)**

The Aluminum Crusher is also a jaw crusher with a single deck shaker screen. This unit is used to separate the silicon metal into three product sizes. The particulate matter emissions from this unit are controlled by a baghouse (EP006).

Emissions Standards:

**Particulate Matter Emissions:**

Particulate matter emissions from this unit shall not exceed the allowable as set by rule 335-3-4-.04.

$E = 3.59 (P)^{0.62}$  (P less than 30 tons per hour)

E = Emissions in pounds per hour

P = Process weight per hour in tons per hour

ADEM Admin. Code R. 335-3-4-.04

At maximum capacity the PM allowable for this unit would be 14.97 lbs/hr.

**Opacity Standards:**

Unless otherwise specified in the Unit Specific provisos of this permit, any source of particulate matter emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate matter emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

ADEM Admin. Code R. 335-3-4-.01(1)

Expected Emissions:

**Particulate Matter Emissions:**

Expected particulate matter emissions from this unit are 0.55 lbs/hr (2.41 TPY). This is based on AP-42 emission factors, baghouse design capture and control efficiencies, and the maximum hours of operation (8,760 hours).

Emissions Monitoring:

Based on the low level of expected emissions from the baghouse as compared to the regulatory allowable, the following requirements would represent periodic monitoring.

The facility shall perform a visual check, once per week, of the baghouse stack associated with this unit. This check shall be performed by a person familiar with Method 9. If visible emissions in excess of 10% opacity are noted, and are not corrected within a period of 1 hour, then a Method 9 must be performed within 4 hours of the observations. Maintenance shall be performed as needed. Any repairs or observed problems shall be recorded.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall perform a weekly inspection of the baghouse associated with this unit to verify proper operation.

The following activities shall be performed:

- (a) Once per week check the capture hoods associated with this permit for fugitive emissions.
- (b) Once per month check hopper, fan and cleaning cycle for proper operation.
- (c) Once per month a visual check of all hoods and ductwork.
- (d) Record any repairs or observed problems.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall perform the following annual inspections of the baghouse to verify proper operation.

The following activities shall be performed:

- (a) Internal inspection of structure, access doors and bags.
- (b) Internal inspection of all hoppers.

ADEM Admin. Code R. 335-3-16-.05(c)

Recordkeeping and Reporting:

The facility shall maintain a record of all inspections, to include visible observations and Method 9's, performed to satisfy the requirements of periodic monitoring. This shall include all problems observed and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall report any Method 9's with an average opacity over 20%. Such reports shall be made within 48 hrs of such observations.

ADEM Admin. Code R. 335-3-16-.05(c)

The facility shall maintain a record of all weekly and annual baghouse inspections to satisfy the requirements of periodic monitoring. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code R. 335-3-16-.05(c)

**Product Handling Emissions (Raw Material Unloading, Conveying, and Storage)**

Product handling emissions include fugitive emissions from storage bins, microsilica bagging, and rail car and tanker truck loading.

Emissions Standards:

**Particulate Matter Emissions:**

Particulate matter emissions from this unit shall not exceed the allowable as set by rule 335-3-4-.04.

$E = 3.59 (P)^{0.62}$  (P less than 30 tons per hour)

E = Emissions in pounds per hour

P = Process weight per hour in tons per hour

ADEM Admin. Code R. 335-3-4-.04

**Opacity Standards:**

Unless otherwise specified in the Unit Specific provisos of this permit, any source of particulate matter emissions shall not discharge more than one 6-minute average opacity greater than 20% in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate matter emissions greater than 40%. Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

ADEM Admin. Code R. 335-3-4-.01(1)

Expected Emissions:

**Particulate Matter Emissions:**

The expected particulate matter emissions from these units are 0.065 lbs/hr (0.282 TPY). This is based on AP-42 emission factors and the maximum hours of operation (8,760 hours).

Emissions Monitoring:

This source is subject to no additional specific requirements other than those listed in the General Provisos.

Recordkeeping and Reporting:

This source is subject to no additional specific requirements other than those listed in the General Provisos.

**Recommendation**

Based on the above analysis and pending the resolution of any comments received during the 30-day public comment period and 45 day EPA review, I recommend issuing Simcala's Title V MSOP renewal.

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Charles Killebrew  
Industrial Minerals Sections  
Energy Branch  
Air Division

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July 7, 2010  
Date